

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

1. (currently amended) A method of removing mercury from a coal fired power plant exhaust gas comprising
  - passing said exhaust gas through a bulk particle collection device to remove a plurality of coarse particles using a coarse particle filter,
  - introducing powdered activated carbon into said~~the~~ exhaust gas downstream of said bulk particle collection device,
  - introducing said powdered activated carbon and said containing exhaust gas into a fine particle filter to separate mercury containing said powdered activated carbon from mercury in said exhaust gas,
  - separating said powdered activated carbon from said mercury at an elevated temperature and in an inert gas environment, and
  - introducing said-separated powdered activated carbon into said exhaust gas upstream from said fine particle filter.
2. (original) The method of claim 1 including
  - subsequent to separating said powdered activated carbon from said mercury and said inert gas separating said mercury from said inert gas.
3. (currently amended) The method of claim 2 including
  - effecting a said desorption of said activated carbon at a temperature of about 300 to 500 °C for about 5 to 60 minutes.
4. (original) The method of claim 3 including
  - effecting said desorption in a continuous process.
5. (original) The method of claim 4 including
  - after separation of said mercury from said inert gas introducing said inert gas into said exhaust gas upstream of said fine particle filter.

6. (currently amended) The method of claim 34 including introducing at least a portion of said desorbed powdered-activated carbon into the combustion chamber of said coal fired process plant.
7. (currently amended) The method of claim 1 including employing said methodprocess on said exhaust gas mercury-containing exhaust gas having about 1 to 1000 ppm of mercury.
8. (currently amended) The method of claim 1 including ~~subsequent to said fine particle filter removal~~ recirculating at least a portion of said mercury containing powdered activated carbon into said exhaust gas upstream of said fine particle filter.
9. (original) The method of claim 1 including employing nitrogen as said inert gas.
10. (currently amended) The method of claim 1 including removing ash from said coarse particles in said coarse particle filter.
11. (currently amended) The method of claim 2 including employing said methodprocess on mercury containing exhaust gas having mercury in an amount of about 1 to 1000 ppm to about 1-10 micrograms per cubic meter of said exhaust gas.
12. (original) The method of claim 1 including employing in said bulk particle collection device a coarse filter.
13. (original) The method of claim 1 including employing in said bulk particle collection device an electrostatic precipitator.
14. (currently amended) Apparatus for recovering mercury from an exhaust gas from a coal fired power plant exhaust gas comprising a bulk particle collection device having a coarse particle filter for removing coarse particles from said exhaust gas, a fine particle filter disposed downstream of said coarse particle filter, a carbon source for introducing powdered activated carbon into said exhaust gas between said coarse particle filter and said fine particle filter, said fine particle filter being structured to separate mercury containing powdered activated carbon from said exhaust gas,

a ~~desorber~~desorption unit for separating said powdered activated carbon from said mercury in an inert gas environment, and

recirculating said powder activated carbon through said exhaust gas between said coarse particle filter and said fine particle filter.

15. (currently amended) The apparatus of claim 14 including

a separation unit for separating mercury from said inert gas received from said desorption unit.

16. (original) The apparatus of claim 14 including

said desorption unit being structured to effect desorption at a temperature of about 300 to 500 °C for about 5 to 60 minutes.

17. (currently amended) The apparatus of claim 14 including

said ~~desorption~~ unit~~desorber~~ structured to effect a ~~said~~-desorption as a continuous process.

18. (currently amended) The apparatus of claim 15 including

said ~~mercury and inert~~ gas-separation unit being structured to deliver said separated inert gas to said exhaust gas.

19. (currently amended) The apparatus of claim 14 including

said ~~desorption~~ unit~~desorber~~ being structured to effect separation of mercury from said powdered activated carbon in mercury amounts of about 1 to 1000 ppm.

20. (currently amended) The apparatus of claim 14 including

said coarse particle filter being structured to remove said coarse particles containing ash from said exhaust gas.

21. (currently amended) The apparatus of claim 14 including

a first conduit for delivering powdered activated carbon from said ~~desorption~~ unit~~desorber~~ to said exhaust gas intermediate said coarse particle filter and said fine particle filter.

22. (currently amended) The apparatus of claim 14 including

a second conduit for delivering powdered activated carbon separated in said ~~desorption~~ unit~~desorber~~ to a ~~the~~-combustion unit of said coal fired power plant.

Response to Office Action Dated September 22, 2005  
U.S. Patent Application Serial No. 10/720,589

23. (currently amended) The apparatus of claim 15 including  
    said desorption unit ~~desorber~~ being structured to effect separation of  
    mercury from said powdered activated carbon in mercury amounts of about 1 to 1000  
    ppm to about 1-10 micrograms per cubic foot of said exhaust gas.
24. (original) The apparatus of claim 14 including  
    said bulk particle collection device having a coarse filter.
25. (original) The apparatus of claim 14 including  
    said bulk particle collection device having an electrostatic precipitator.